KARTOZIYA, TS.I.

Significance of the chromatographic and spectrophotometric
determinations of bilirubin fractions in jaundice of the
newborn. Soob. AN Gruz. SSR 30 no.3:297-304 Mr '63.
                                                  (MIRA 17:6)
1. Ministerstvo zdravookhraneniya Gruzinskoy SSR, Institut
pediatrii, Tbilisi. Predstavleno akademikom V.K. Asatiani.

KURASHVILI, P.A.; KARTOZIYA, TS.I.; BERADZE, G.G.; MUKERIYA, N.G.

Age-related characteristics of the indices of protein-lipoid
metabolism in white rats. Soob. AN Gruz. SSR 36 no.1:85-91
O '64.   (MIRA 18:3)

1. Institut pediatrii Ministerstva zdravookhraneniya Gruzinskoy
SSR, Tbilisi. Submitted April 16, 1964.

S/129/61/000/001/007/013
E073/E135

AUTHORS: Tavadze, F.N., Corresponding Member, AS Georgian SSR,
             Kartoziya, Ye.S., Engineer, and
             Shinyayev, A.Ya., Candidate of Technical Sciences

TITLE: Solubility of Magnesium in Iron

PERIODICAL: Metallovedeniye i termicheskaya obrabotka metallov,
             1961, No. 1, pp. 33-35

TEXT: The results are described of determining the solubility
of magnesium in iron of high purity at elevated pressures.   As
starting materials, electrolytic iron (99.87%) and magnesium
(99.9%) were used.   The iron was saturated with magnesium in
cylindrical containers of commercially pure iron with 5 mm thick
walls.   The working part was 20 mm high with a diameter of 20 mm.
Iron discs of 19.5 mm dia and 4 mm thick were charged into the
container together with magnesium, the volume of which was
approximately equal to the volume occupied by the iron specimens.
The container was hermetically closed with a threaded stopper and a
lid.   Following that, the container was sealed in vacuum into
quartz ampoules and annealing was effected at 1120 °C for a duration

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which was sufficient for producing appreciable diffusion layers.
The duration of the annealing depended on the hermeticity of the
container, i.e. on the pressure. The pressure in the container was
produced by the considerable differences in the coefficients of
expansion of the magnesium and the iron. According to calculations,
pressures between 500 and 1500 atm can be produced by this means.
For such pressures no appreciable solubility of magnesium in iron
was detected below 1000 °C.   Above this temperature the solution
was due to the hermeticity of the system. No microstructural
changes in the surface layer of the specimens was observed after
annealing for 18 hours at 1120 °C. However, chemical analysis by
deposition on the mercury cathode of a 0.4 mm thick surface layer
showed a content of 0.17-0.19 wt.% of magnesium. In specimens
annealed for 40 hours at the same temperature microstructure changes
in the surface layer were detected; a zone of columnar crystals,
orientated perpendicular to the surface of the specimen and having
an average thickness of 0.5 mm was observed. The magnesium content
in a 0.4 mm thick layer was about 0.6%. Outside this layer the

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structure was the ordinary polyhedric one. X-ray structural investigations by the powder method showed that the lattice period tends to decrease on transition to layers that are saturated with magnesium (2.858 compared to 2.861 Å for the pure iron). The X-ray diffraction patterns showed only pure iron lines. The self-diffusion power of the iron was studied by depositing on the magnesium-containing layer the isotopes Fe^{59} and Fe^{55} and subjecting these specimens as well as reference specimens of pure iron to vacuum annealing in quartz ampoules at temperatures controlled within ± 2 °C. The self-diffusion was determined by electrolytic removal of layers and measuring the radioactivity of each layer. It was found that magnesium brings about an increase in the self-diffusion of iron; at 1080 °C the diffusion in the magnesium-containing surface layer was about 25 times as high as in pure iron. Particularly noticeable is the increase in the self-diffusion coefficient for iron that has been subjected to microstructure changes as a result of magnesium dissolution. Autoradiographic investigations have shown that volume diffusion of iron takes place

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Solubility of Magnesium in Iron

throughout the entire depths of the diffusion zone, which indicates
that the magnesium which is dissolved in the iron is uniformly
distributed throughout the grain body; the diffusion depth in
pure iron was 80-90 μ and over 200 μ in the magnesium-containing
iron layers. This contributed to the formation of a large number
of defects in the crystal lattice of the solvent metal during the
process of dissolution. Indeed, in almost all cases the micro-
photographs of magnesium-containing iron show pores; these
coagulate, depending on the conditions of interaction between the
magnesium and the iron (temperature, pressure). Magnesium
dissolves in iron only at high pressures and temperatures (above
1000 °C). According to Bulloy and Human (Ref.2) dislocations can
become centres of accumulation of dissolved admixtures. In the
zone surrounding the dislocations the migration of atoms is
considerably accelerated. Formation of vacancies should reduce the
lattice period of the iron. This is in good agreement with data
obtained by X-ray investigations. There are 1 figure, 1 table
and 2 references: 1 Soviet and 1 English.
This is a condensed translation.
Card 4/4

TAVADZE, F.N.; KARTOZIYA, Ye.S.

Surface saturation by lithium of iron, cobalt, and nickel.
Trudy GPI [Gruz.] no.4:57-63 '62   (MIRA 17:8)

KARTOZIYA, Ye.s.

Magnesium diffusion in iron-chromium and iron-manganese
alloys. Trudy GPI [Gruz.] no.4:75-80 '62   (MIRA 17:8)

KARTSEV, A.; KOL'CHUGIN, K.

Construction Industry - Accounting

"Calculation of capital construction," M. F. D'Yachkov, Reviewed by: 1. a. Kartsev; 2.
K. Kol'chugin, Bukhg. uchet, No. 2, 1952.

Monthly List of Russian Accessions, Library of Congress, May 1952, Unclassified.

KARTSEV, A.

Construction Industry

"Taking stock of materials at construction sites." Bukhg. uchet, 11, No. 5. 1952

Monthly List of Russian Accessions, Library of Congress, August 1952, Unclassified.

KARTSEV, A., inzhener-mekhanik (Leningrad).

Vacuum cleaner for airplanes. Grazhd.av. 14 no.7:23 Jl '57. (MLRA 10:9)
(Vacuum cleaner)

KARTSEV, A. A.

Mar 49

USSR/Petroleum
    Petrology
    Carbon

"Organic Matter in Rocks of the Kirovabad Petroleum Region," A. A. Kartsev, Inst Petroleum, Acad Sci USSR, 4 pp

"Dok Ak Nauk SSSR" Vol LXV, No 3

Determined content of organic carbon by wet-combustion method in 35 samples from various levels of the Maykopskiy layer (centers of well drillings in Naftalan and Kazan-bulag areas) to clarify quantitative distribution of organic substance. Submitted by Acad S. I. Mironov, 31 Jan 49.

39/49T100

KARTSEV, A. A.

Kartsev, A. A. - "The Maykop formation of the Western Azerbaydzhan," In the symposium:
Nauch. raboty studentov gorno-metallurg. in-tov Moskvy. Moscow, 1949, p. 4-21, -
Bibliog: 22 items

SO: U-4934, 29 Oct 53, (Letopis 'Zhurnal 'nykh Statey, No. 16, 1949).

CA

21

Extraction characteristics of caustobiolites. A. A. Kart-kev. *Doklady Akad. Nauk U.S.S.R.* 65, 173-6(1949).—A modified method, called extn.-luminescence, was employed for differentiating between org. substances belonging to the coal series and those of the petroleum series. The following solvents were used in the detns.: 2% KOH, alc.-C_6H_6, $CHCl_3$, C_6H_6, and petr. ether. The samples of caustobio-lites examd. were listed. Two to three ml. of a solvent were added to 2-3 g. of sample, and extn. was allowed to proceed in the cold for 1-2 days. The degree of luminescence was detd. by comparison with standards prepd. from solns. of petroleum in C_6H_6.   Gladys S. Macy

KARTSEV, A. A.

"Reasons for the Regularity in the Distribution of the Petroleum Properties
in the Oil Fields of the Apheron Peninsual", Petroleum Economy, No. 9, 1951.

KARTSEV,A.A., kandidat geologo-mineral'nykh nauk

Paleogeochemical investigation of Maikop deposits of Georgia.
Trudy MNI no.13:110-118 '53.   (MIRA 8:6)
        (Georgia--Geology, Stratigraphic)

KARTSEV, A.A.; TABASARANSKIY, Z.A.; SUBBOTA, M.I.; MOGILEVSKIY, G.A.; ABRA-
MOVICH, M.V., professor, retsenzent; GRISHIN, G.L., retsenzent; KOVA-
LEVA, A.A., redaktor; POLOSINA, A.S., tekhnicheskiy redaktor.

[Geochemical methods of prospecting for oil and gas pools] Geokhimi-
cheskie metody poiskov i razvedki neftianykh i gazovykh mestorozhdenii.
Moskva, Gos. nauchno-tekhn. izd-vo neftianoi i gorno-toplivnoi lit-ry,
1954. 430 p.   (MLRA 7:11)
          (Prospecting) (Petroleum--Geology)

KARTSEV, A.A.

AID P - 501

Subject   : USSR/Geochemistry

Card 1/2   Pub. 78 - 15/27

Authors   : Kartsev, A. A. and Kholodov, V. N.

Title   : Geochemistry of the Fergana oil fields

Periodical   : Neft. Khoz., v. 32, #6, 52-54, Ju 1954

Abstract   : The author describes the irregular effects of minerali-
zation and metamorphization of underground water on the
characteristics of oil found in various depths of the
Fergana valley. In the Shorsu oil field general minerali-
zation was reported to be maximum in the upper strata and
metamorphization in the lower one in contrast with the
opinion of other investigators. The above irregularities
are accounted for by chemical interaction of oil and
water, containing sulfates, excess of sulfur, iron and
other components. The geochemical study of oil, water
and rocks in Shorsu indicates that the properties of oil

AID P - 501

Neft. Khoz., v. 32, #6, 52-54, Ju 1954

Card 2/2   Pub. 78 - 15/27

are dependent upon the primary causes of initial sub-
stance as well as upon secondary factors, chiefly the
oxidation processes. 8 Russian references (1940-1951).

Institution : None

Submitted   : No date

KARTSEV, V. A

KARTSEV, A.A.

Analysis of the distribution of properties of oils in fields of
Cenozoic folding regions. Trudy MNI no.14:103-114 '55.
                        (Petroleum geology)   (MLRA 8:11)

VASSOYEVICH,N.B.; KARTSEV,A.A.

Use of vector diagrams in petroleum geochemistry. Trudy VNIGRI
no.83:520-525 '55. (MLRA 8:10)
(Geochemical prospecting) (Petroleum geology)

KARTSEV, A.A.; GRISHIN, P.A.

Some new data on the hydrogeology of the Maikop deposits of the
Kuban-Black Sea Region. Dokl.AN SSSR 108 no.3:541-543 My '56.
(MLRA 9:8')
1. Moskovskiy neftyanoy institut imeni I.M. Gubkina. Predstav-
leno akademikom N.M. Strakhovym.
(Kuban--Petroleum geology)

KARTSEV, A.A.

Conditions under which sulfur crude oil is formed in nature. Geol.
nefti 1 no.2:32-36 F '57.   (MLRA 10:8)
                        (Petroleum--Analysis)

VASSOYEVICH, N.B.; KARTSEV, A.A.; TABASARANSKIY, Z.A.

Materials on the geochemistry of certain Kuban petroleums. Trudy
VNII no.19:174-185 '57.   (MIRA 11:1)
(Kuban--Petroleum--Analysis)

KARTSEV A.A.

KARTSEV, A.A.; TAMRAZYAN, G.P.

Effect of infiltration on the formation of waters in the Apsheron oil-producing area. Trudy MNI no.19:186-195 '57.   (MIRA 11:1)

(Apsheron Peninsula—Oil field brines)

KARTSEV, A.A.; TABASARANSKIY, Z.A.

Formation of oil pools in eastern Fergana. Sov. geol. no.57:76-81
'57.   (MLRA 10:8)
                    (Fergana--Petroleum geology)

KARTSEV ALEKSEY ALEKSANDROVICH

Andreyev, Pavel Fedorovich; Bogomolov, Aleksey Ivanovich; Dobryanskiy, Aleksandr Flavianovich; and Kartsev, Aleksey Aleksandrovich

Prevrashcheniya nefti v prirode (Conversion of Petroleum in Nature) Leningrad, Gostoptekhizdat, 1958.   416 p.   3,100 copies printed.

Ed.: Dobryanskiy, A.F.; Executive Ed.: Chizhov, A.A.; Tech. Ed.: Yashchurzhinskaya, A.B.

PURPOSE: This book is intended for specialists in geochemistry and petroleum geology.

COVERAGE: The book gives a systematic approach to problems related to the transformations of present-day petroleum deposits as systems of active substances. A.F. Kartsev wrote Chapters I, II and V (pt.1); P.F. Andreyev - Chapters III, IV and V (pt.2), A.I Bogomolov - Chapters VI and VII; A.F. Dobryanskiy - Chapters VIII and IX. References are given at the end of each Chapter.

Card 1/6

ZHDANOV,Mikhail Alekseyevich, KARTSEV, Aleksey Aleksandrovich,; KHEL'KVIST, G.A., retsenzent,; BEKMAN, Yu. K., ved. red.; POLOSINA, A.S., tekhn. red.

[Petroleum geology and hydrogeology] Neftepromyslovaia geologiia i gidrogeologiia. Moskva, Gos. nauchno-tekhn. izd-vo neft. i gorno-toplivnoi lit-ry, 1958. 472 p.   (MIRA 11:11)

1. Chlen-korrespondent AN,SSSR(for Khel'kvist).
                    (Petroleum geology)
                    (Water, Underground)

KARTSEV, A.A.

Classification of hydrogeological indicators in the evaluation of oil and gas potentials. Trudy MNI no.22:91-97 '58.

(MIRA 12:4)

(Oil field brines--Classification)

20-118-5-42/59

AUTHORS: Kartsev, A. A., Sladkov, A. I.

TITLE: Organic Phosphorus in Petroleum (Organicheskiy fosfor v neftyakh)

PERIODICAL: Doklady Akademii Nauk SSSR, 1958, Vol. 118, Nr 5, pp. 998-999 (USSR)

ABSTRACT: The problem of the presence of organic phosphorus compounds in petroleum is not yet settled. Phosphorus has been determined several times (references 1 - 5 and others) in petroleum ashes, which may also contain phosphates which form mechanical admixtures in petroleum. According to V. I. Vernadskiy the presence of phosphorus proves the biogenic origin of petroleum. The authors are of opinion that this may refer only to organic phosphorus. In order to isolate this latter kind of phosphorus it was determined in fractional distillation. For this four samples of crude oil were used. two with rich and two with poor sulfur content. The method is briefly explained. PO_4-ions were determined according to reference 8. As can be seen from table 1 in all samples distillate-phosphorus could be detected. As it is absolutely impossible that phosphates get into the distillate and as there are no other inor-

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20-118-542/59

ganic phosphorus compounds known in nature, the distillate phos-
phorus necessarily belongs to organic compounds. This determina-
tion, apparently, has been conducted for the first time. If the
distillate phosphorus must entirely be of organic nature, then the
residual phosphorus can be as well of organic as of mineral (phos-
phate) origin. According to table 1 the ratio of quantities of the
total and the distillate phosphorus differ strongly for the diffe-
rent kinds of petroleum. Secondly, the content in distillate phos-
phorus is approximately everywhere of the same order of magnitude,
whereas the content of total phosphorus is rather different in
various types of petroleum. The highest quantities of total phos-
phorus are characteristic for the types of petroleum very rich in
sulfur. The distillate phosphorus shows no relation what-so-ever
with the sulfur content. The relation of the total phosphorus with
sulfur leads to the following assumptions on the phosphorus genesis
and on the nature of the organic phosphorus compounds in petroleum:
at present it is assumed that the largest part of sulfur is of se-
condary origin and penetrates into the petroleum as a result of the
sulfate-reduction,(reference 9), at which microorganisms are in-
volved. The increased total phosphorus content in types of petroleum
very rich in sulfur obviously demonstrates, that the concentration
of sulfur is accompanied by the penetration of a certain quantity
of phosphorus into the petroleum. As there is no basis for the

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Organic Phosphorus in Petroleum   20-118-5-42/59

        assumption that phosphates penetrated, a considerable part of
this secondary phosphorus has to be taken as organic. Its source
may well be microorganisms. The lacking of a relation between
the sulfur content and the distillate-phosphorus is a sign for the
independence of the latter from micro-biological processes and for
its primary nature. The distillate-phosphorus, therefore, can be
considered as originating from the-original petroleum-forming
organisms. This is one essential proof more for the biogenic ori-
gin of petroleum. From the above listed data it can also be conclu-
ded that the secondary phosphorus in petroleum is represented by
more stable compounds, as the increasing content of total phosphorus
is not accompanied by an increase of distillate phosphorus.
There are 9 references, 2 of which are Soviet.

PRESENTED: October 9, 1957, by A. Ye. Arbuzov, Academician.

SUBMITTED: July 4, 1957.

Card 3/3

KARTSEV, A. A.

3(5)   PHASE I BOOK EXPLOITATION   SOV/2302

Akademiya nauk Ukrainskoy SSR. Institut geologii poleznykh iskopaye-mykh

Problema migratsii nefti i formirovaniya neftyanykh i gazovykh sko-pleniy; materialy L'vovskoy diskussii 8-12 maya 1957 g. (Problems of Oil Migration and the Formation of Oil and Gas Accumulations; Materials of the Discussion Held in L'vov, May 8-12, 1957) Moscow, Gostoptekhizdat, 1959. 422 p. 1,100 copies printed.

Ed.: V. B. Porfir'yev, Academician of the Ukrainian SSR Academy of Sciences, and I. O. Brod, Professor; Exec. Ed.: P. R. Yershov; Tech. Ed.: A.S. Polosina; Editorial Board: I.O. Brod, Professor, M.R. Ladyzhenskiy, and V.B. Porfir'yev, Academician of the Ukrain-ian Academy of Sciences.

PURPOSE: This collection of articles is intended for a wide range of geologists and research workers interested in oil problems.

COVERAGE: Articles contained in this book deal with the problems of migration and accumulation of oil and gas. These problems were discussed in May 1957 at L'vov State University im. I. Franko at a meeting organized jointly by the Institute of Geology and Miner-al Resources, Academy of Sciences of the USSR, the Department of Geology and Oil Exploration of the L'vov Polytechnic Institute, and the L'vov Geological Society. Theories on the origin of pe-troleum deposits and the conditions surrounding their occurrence are treated. There are 327 references: 232 Soviet, 86 English, 5 French, and 4 German.

TABLE OF CONTENTS:

KARTSEV, A. A.

Cenozoic and Paleozoic types of oil. Izv. vys. ucheb. zav.; neft'
i gaz 2 no.8:3-7 '59.

(MIRA 12:11)

1.Moskovskiy institut neftekhimicheskoy i gazovoy promyshlennosti
im. akad. I.M. Gubkina.

(Hydrocarbons)

KARTSEV, A. A., Doc Geolog-Mineralog Sci (diss) -- "The geochemical laws of the location of petroleum of various compositions", Moscow, 1960. 23 pp (Min Higher and Inter Spec Educ RSFSR, Moscow Inst of the Petroleum-Chem and Gas Industry (MINKh i GP) im I. M. Gubkin), 150 copies (KL, No 12, 1960, 125)

KARTSEV, A.A.

Geochemical evolution of petroleums. Trudy MINKHiGP no.27:53-64
'60.
      (Petroleum geology)
                                    (MIRA 13:9)

VAGIN, S.B.; KARTSEV, A.A.; OTMAN, N.S.; SHUGRIN, V.P.

Some recent data on the hydrogeology and tectonics of the
YeyskBerezanskaya gas producing area. Dokl. AN SSSR 139 no.5:
1205-1207 Ag '61.   (MIRA 14:8)

1. Moskovskiy institut neftekhimicheskoy i gazovoy
promyshlennosti im. I.M. Gubkina. Predstavleno akademikom
D.I. Shcherbakovym.
          (Krasnodar Territory—Geology, Structural)
          (Water, Underground)

KARTSEV, A.A.; VAGIN, S.B.

Paleohydrogeological data of the formation and disintegration of
oil and gas accumulations as revealed by the studies of the
Mesozoic sediments in Ciscaucasia. Sov.geol. 5 no.8:104-121
Ag '62.   (MIRA 15:9)

1. Moskovskiy institut neftekhimicheskoy i gazovoy promyshlennosti
imeni I.M. Gubkina.
        (Caucasus, Northern—Petroleum geology)
        (Caucasus, Northern—Gas, Natural—Geology)

KARTSEV, Aleksey Aleksandrovich; OVCHINNIKOV, A.M., doktor geol.-
         miner. nauk, prof., retsenzent; IONEL', A.G., ved. red.;
         YAKOVLEVA, Z.I., tekhn. red.; STAROSTINA,L.D., tekhn.red.

[Hydrogeology of oil and gas fields]Gidrogeologiia neftianykh
i gazovykh mestorozhdenii. Moskva, Gostoptekhizdat, 1963.
353 p.   (MIRA 16:4)
         (Oil field brines)

KARTSEV, A.A.

Possible role of the flow effect in the formation of oil pools.
Trudy MINKHiGP   no.43:49-53 '63.   (MIRA 17:4)

KARTSEV, Aleksey Aleksandrovich; SHUGRIN, Valeriy Petrovich;
DVALI, M.F., doktor geol.-miner. nauk, prof., retsenzent;
BEKMAN, Yu.K., ved. red.

[Geochemical investigation methods for the prospecting of
oil and gas] Geokhimicheskie metody issledovanii pri po-
iskakh nefti i gaza. Moskva, Izd-vo Nedra, 1964. 201 p.
                                                (MIRA 17:8)

KARTSEV, A.A.

"Formation of oil and gas pools as elements of ground water basins."

report submitted for 22nd Sess, Intl Geological Cong, New Delhi, 14-22 Dec
1964.

VAGIN, S.B.; GORDINSKIY, G.Ye.; GRIBOVA, Ye.A.; DUBROVSKAYA,M.A.;ZHDANOV,
M.A., prof. ; ZYUZINA, N.G.; KARTSEV, A.A.; KNYAZEV,V.S.,dots.;
LEONOVA, R.A.;POKROVSKAYA, L.V.; SUDARIKOV, Yu.A.;YUDIN,G.T.,dots.;
SOKOL'SKAYA, Z.V.; TOMKINA, A.V.; USPENSKAYA,N.Yu.,prof.;FOMKIN,
K.V.,kand.geol-min.nauk; CHERNYSHEV,S.M.; YAVORCHUK, I.V.;
BAKIROV, A.A., prof., red.; DEMENT'YEVA, T.A., ved. red.

[Geological conditions and basic characteristics of oil and
gas accumulations in the limits of the Epi-Hercynian
Platform in the south of the U.S.S.R.] Geologicheskie uslo-
viia i osnovnye zakonomernosti razmeshcheniia skoplenii
nefti i gaza v predelakh epigertsinskoi platformy iuga SSSR.
Pod obshchei red. A.A.Bakirova. Moskva, Nedra. Vol.2. 1964.
306 p.   (MIRA 17:12)

1. Moscow. Institut neftekhimicheskoy i gazovoy promyshlen-
nosti.

KARTSEV, A.A.; KUDRYAKOV, V.A.; KHODZHAKULIYEV, Ya.A.

Basic characteristics of the hydrodynamics of the northern
part of the Kara Kum artesian basin.. Dokl. AN SSSR 157
no.5:1114-1117 Ag '64.   (MIRA 17:9)

1. Moskovskiy institut neftekhimicheskoy i gazovoy promyshlennosti
im. Gubkina. Predstavleno akademikom D.I. Shcherbakovym.

SAVVIN, V.N., inzh.; SEKUNDA, A.T., inzh.; KARTSEV, A.I., inzh.;
GALETSKIY, N.S., inzh.

Some problems concerning the component distribution and
compensation of thermal expansion of the GTU-50-800 gas
turbine system manufactured by the Kharkov Turbine Plant.
Energomashinostroenie 8 no.11:10-13 N '62.

(MIRA 16:1)

(Gas turbines)

SIDORENKO, A.K.; KARTSEV, A.K.; SHATSKIY, Ye.S.; GAL'PERIN, Ye.I.,
   otvetstvennyy redaktor;LEUTA, V.I., vedushchiy redaktor; RU-
   DENSKIY, Ya.V., tekhnicheskiy redaktor.

[Manufacture of cog and worm gear] Izgotovlenie zubchatykh i
cherviachnykh peredach. Kiev, Gos. nauchno-tekhn, izd-vo ma-
shinostroitel'noi i sudostroit. lit-ry, 1954. 117 p.
       (Gearing)   (MLRA 8:1)

KARTSEV, A.K.; KARPOV, V.F., inzhener, redaktor; GAL'PERIN, Ye.I., inzhener, redaktor; LEUTA, V.I., inzhener, redaktor; RUDENSKIY, Ya.V., tekhni- cheskiy redaktor.

[Production of worm gears; from the practice of the Novo-Kramatorsk machine shop] Proizvodstvo globoidnykh peredach. Pod red. V.F.Kar- pova. Kiev, Gos. nauchno-tekhn. izd-vo mashinostroit. lit-ry, Ukrain- skoe otd-nie, 1954. 134 p.   (MLRA 8:1)
          (Gearing, Worm)

KARTSEV, A.K.

USSR/Engineering - Metal machining

Card 1/1   Pub. 128 - 15/31

Authors   : Kartsev, A. K., Engineer

Title   : Threading of unique globular couplings on universal machines

Periodical : Vest. mash. 35/5, 39-42, May 1955

Abstract   : The requirements of gear cutting machines for the threading of unique
             globular transmission couplings are discussed. The advantages of globular
             transmission systems over the conventional worm gear are listed. Practice
             has shown that the quality of globular transmissions depends, first of all,
             upon the rigidity of the gear cutter, required surface purity and hardness
             of the metal. Drawing; illustrations.

Institution : .....

Submitted   : .....

KARTSEV, A. L.

KARTSEV, A. L.- "Geochemical and Geological Conditions Governing
    the Formation of the Maykop Deposits in Georgia." Sub 12 Feb 52,
    Moscow Order of the Labor Red Banner Petroleum Inst imeni
    Academician I. M. Gubkin. (Dissertation for the Degree of
    Candidate in Geological and Mineralogical Sciences).

SO: Vechernaya Moskva January-December 1952

L 45965-66   EWT(1)   SCTB   DD/RD/JKT/GD/JXT(C²)

ACC NR: AT6030695   SOURCE CODE: UR/0000/66/000/000/0035/0051

AUTHOR: Nefedov, Yu. G.; Anisimov, B. V.; Veselova, A. A.; Zaloguyev, S. N.;
Zhuravlev, V. V.; Iseyev, L. R.; Komarov, N. N.; Kartsev, A. N.; Ivanenko. G. T.;
Levinshiy, S. V.

ORG: none

TITLE: The aeroion composition of the air of hermetic chambers and its influence on
the human organism

SOURCE: Konferentsiya po kosmicheskoy biologii i meditsine, 1964, Materialy.
Moscow, Inst. mediko-biol. problem, 1966, 35-51

TOPIC TAGS: aeroionization, human physiology, life support system, space physiology

ABSTRACT: A number of previous studies have indicated that while aeroions are of
minor consequence, chronic exposure to them can lead to substantial changes in the
functional condition of the organism. To further study this factor, five experiments
of 20 days duration were conducted on 25 male volunteers from a laboratory (not
named). The first experiment was for control purposes to obtain hygienic, chemical,
and physiological data. The density of ions in this experiment ranged from
50—2000 pairs of ions/cm³. The second, third, and fourth experiments entailed
exposure to positive, negative, and bipolar ions generated by "Shteynbok" radioactive
ionizers. Ion concentration in the respiratory zone was 700—900 thousand ions/cm³

Card 1/8

L 45965-66
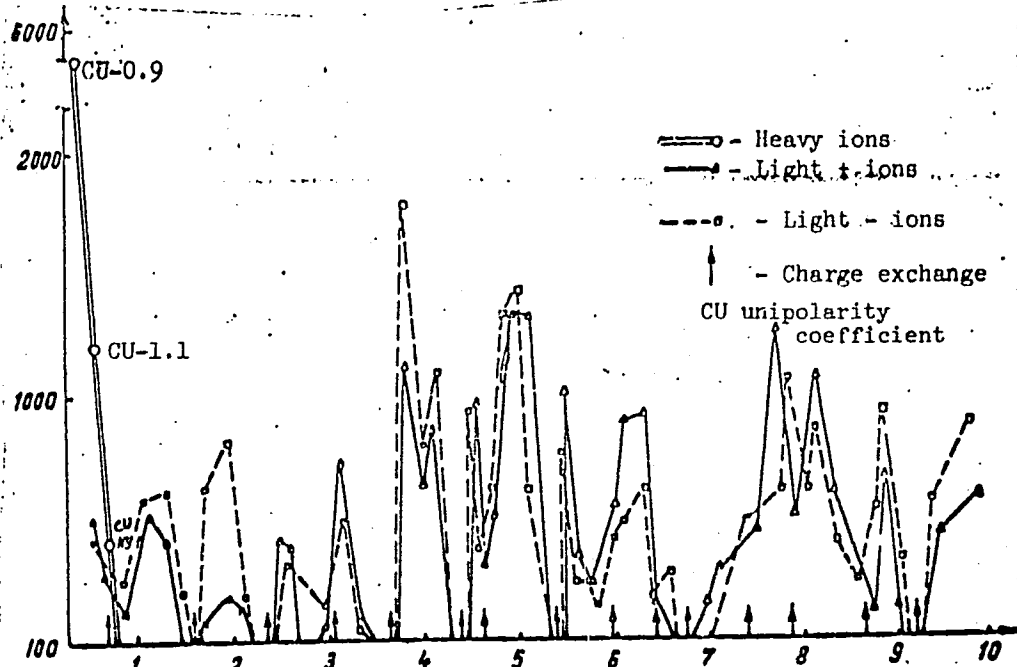
ACC NR: AT6030695

Fig. 1, Aerion composition during a 10-day experiment

Card 2/8

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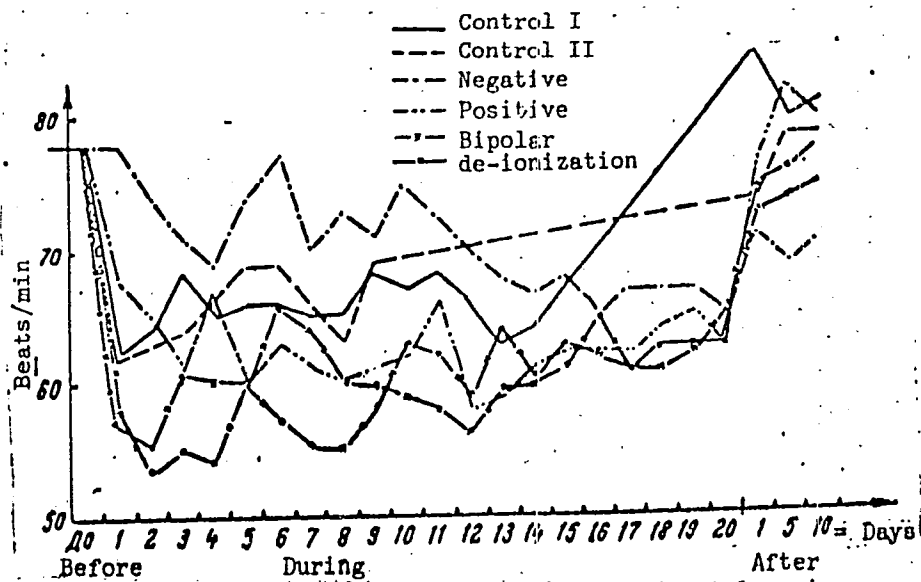
Fig. 2. Pulse dynamics during various experimental regimens

Card 3/8

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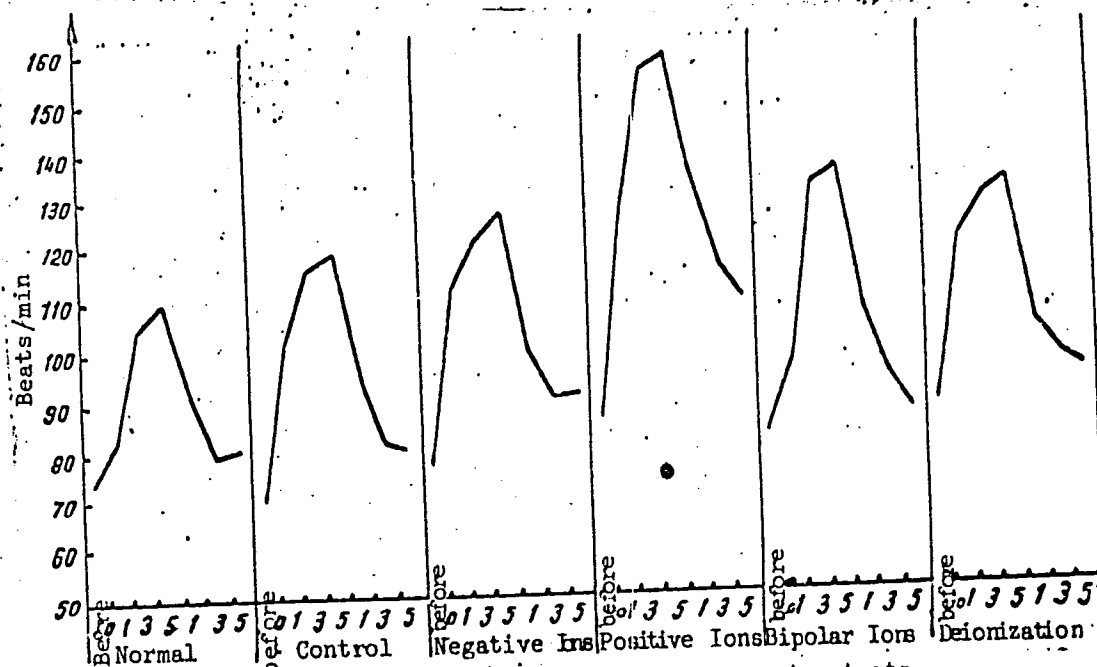
Fig. 3. Pulse variations during bicycle ergometer tests

Card 4/8

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ACC NR: AT6030695
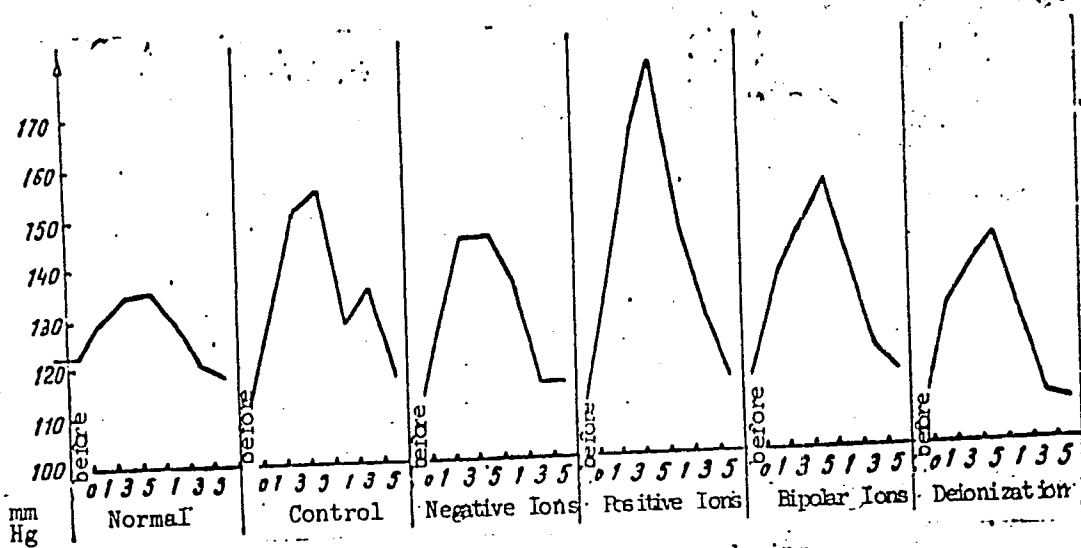
Fig 4. Changes in systolic pressure during exercise on a bicycle ergometer (mean values)

Card 5/8

L 45965-66

ACC NR: AT6030695
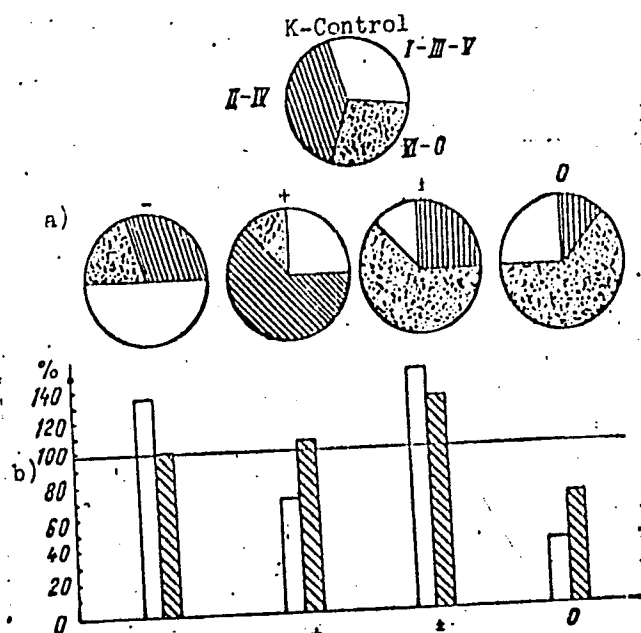
Fig. 5. Comparative characteristics of changes in the strength of neural processes in various experimental regimens (+, -, ±, control)

a - Character of reactivity curves;
b - changes in the coefficient of reactivity to light (white) and to opening the eyes (striped).

Card   6/8

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ACC NR: AT6030695
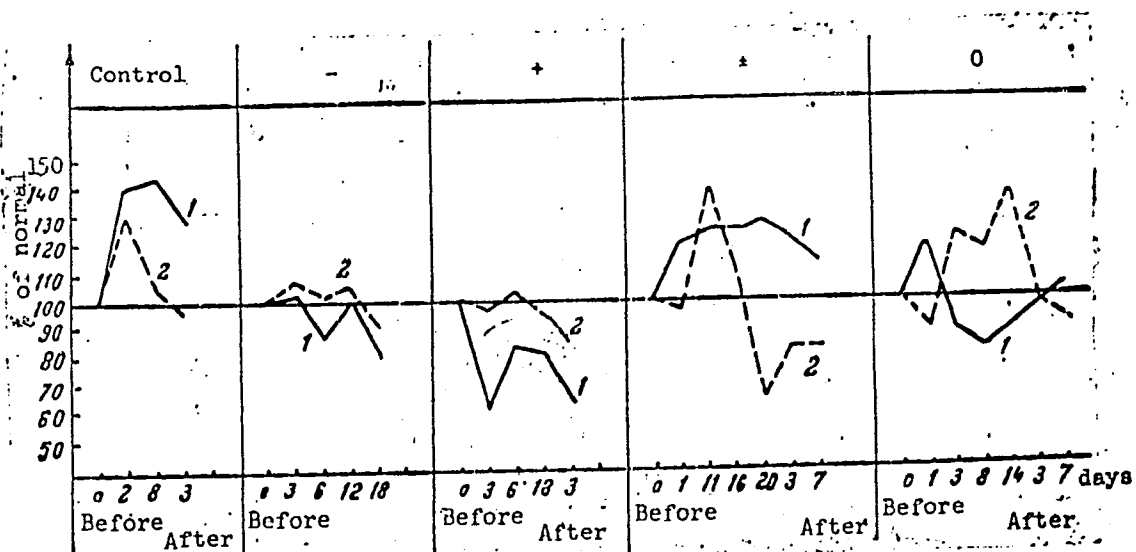
Fig. 6. Changes in the sensitivity of central (E_o) and peripheral (L_3) components of the visual analyzer (mean values): $1 - E_o$; $2 - L_3$.

Card   7/8

L 45965-66

ACC NR: AT6030695   0

during experimentation. Allowing that the natural exposure dose for the lungs is 12.87 mrem/week (Sivintsev, 1960), it was calculated that 1 g of lung receives $0.33 \cdot 10^{10}$ pairs of ions per day. If, in the respiratory medium, there were 500 pairs of light ions/cm^3 and 5000 pairs of heavy ions/cm^3, then $0.7 \cdot 10^{10}$ light and $7 \cdot 10^{10}$ heavy pairs of ions would reach the lungs of a man during a day. In these experiments, the average subject received approximately 10^{11} pairs of light ions per day. In the fifth experiment, the chamber was de-ionized using a system of filters and special ion traps. However, complete de-ionization could not be achieved and the density was 50—60 pairs of ions/cm^3. Some results of these experiments are shown in Figs. 1-6. The results of the experiment generally showed increased muscular working capacity, external respiration, and an increased level of gas exchange during exercise in the experiment with negative aeroionization. Partial normalization of some indices occurred during the respiration of negative aeroions. However, for a number of indices, a normalizing effect was also noted in response to the respiration of positive and bipolar ions. Nonetheless, the general trend of the majority of shifts noted during experimentation lends credence to the proposition that prolonged exposure to positive ions or a de-ionized air leads to some changes deleterious to human health. It is possible that an effective approach to this problem would be to combine negative ions with positive or bipolar ions. The establishment of optimum aeroion regimens requires additional research. Orig. art. has: 7 figures.   [CD]

SUB CODE: 06/ SUBM DATE: 14Apr66/ ORIG REF: 011/ ATD PRESS: 5086

Card   8/8   hs

KARTSEV, A.P.

       Precision casting with the use of ceramic cores. Lit. proizv.
       no.7:1-2 Jl '63.   (MIRA 17:1)

KARTSEV, A.P.

Multilayer coatings on wax patterns. Lit. proizv. no.5:37 My '62.
(MIRA 16:3)

(Patternmaking)

KARTSEV, A.V.

LAZUTKIN, S.T., kandidat tekhnicheskikh nauk; KARTSEV, A.V., inzhener;
SHASHURIN, L.M., redaktor; MATSEYEVSKAYA, Ye.M. tekhnicheskiy
redaktor

[Technical survey of railway freight cars] Tekhnicheskii osmotr
gruzovykh vagonov v poezdakh. Moskva., Gos. transportnoe zhelzno-
dorozhnoe izd-vo, 1953. 94 p.   (MLRA 7:9)
        (Railroads--Freight cars)

KAPTSEV, ALEKSEY VLADIMIROVICH

N/5
748
.K11

Organizatsiya Materialnogo Snabzheniya I Uchet Materialov V. Stroitel'stvo
(Organisation of Material Supply of Materials in Buildings) Moskva, Gos. Izd-vo
Literatury Po Stroitel'stuv I arkhitekture, 1956.
164 P. Tables.

OR

KARTSEV, Aleksey Vladimirovich

[Fundamental statistics of capital construction] Osnovy
statistiki kapital'nogo stroitel'stva; uchebnoe posobie
dlia podgotovki bukhgalterov stroek i podriadnykh orga-
nizatsii. Moskva, Gosstatizdat, 1962. 219 p.

(MIRA 16:8)

(Construction industry)

5(4), 15(6)   SOV/2o-122-1-27/44
AUTHORS: ~~Kartsev, G. N.,~~ Syrkin, Ya. K., Corresponding Member,
              Academy of Sciences, USSR, Mironov, V. F., Chernyshev, Ye.A.

TITLE: The Dipole Moments of Some Silicon-Organic Compounds
              (Dipol'nyye momenty nekotorykh kremniyorganicheskikh soyedineniy)

PERIODICAL: Doklady Akademii nauk SSSR, 1958, Vol 122, Nr 1, pp 99-1o2
              (USSR)

ABSTRACT: The authors measured the dipole moments of some silicon-
              organic compounds according to the heterodyne method at
              25° in benzene. The extrapolated polarizations were cal-
              culated according to a formula of Gedestrand. For compounds
              which contain silicon, the atomic polarization has to be
              taken into account. The experimental results are given in a
              table. A distinctive peculiarity of the silicon compounds
              is the increased polarity with respect to the corresponding
              carbon bonds. According to the available data, the bond
              moment of Si-H may be estimated to 1D, and the bond moment
              of Si-C - to 0,6D. In both of these cases, the positive end
Card 1/2   of the dipole is directed towards the silicon, In the bonds

The Dipole Moments of Some Silicon-Organic Compounds   SOV/20-122-1-27/44

Si-O and Si-halogen, the weight of the ionic state is higher. Numerous and detailed data are given. There are 1 table and 5 references.

ASSOCIATION: Moskovskiy Institut tonkoy khimicheskoy tekhnologii im. M. V. Lomonosova (Moscow Institute of Fine Chemical Technology imeni M. V. Lomonosov)

SUBMITTED: May 15, 1958

Card 2/2

KARTSEV, G. N.   Cand Chem Sci -- "Polarity of certain organic compounds of silicon." Mos, 1960 (Acad Sci USSR. Inst of Elementary Organic Compounds).
(KL, 1-61, 182)

-55-

KARTSEV, G.N.; SYRKIN, Ya.K.; KRAVCHENKO, A.L.; MIRONOV, V.F.

Dipole moments of some germanium organic compounds. Zhur. strukt. khim. 5 no.3:492-493 My-Je '64. (MIRA 18:7)

1. Moskovskiy institut tonkoy khimicheskoy tekhnologii imeni M.V. Lomonosova.

KARTSEV, G.N.; KOKOREVA, I.Yu.; SYRKIN, Ya.K.; MIRONOV, V.F.; CHERNYSHEV, Ye.A.

Dipole moments of organic compounds with a Si-Si bond. Zhur. strukt. khim. 6 no.2:309-310 Mr-Ap '65.   (MIRA 18:7)

1. Moskovskiy institut tonkoy khimicheskoy tekhnologii imeni Lomonosova.

KARTSEV, G.N.; SYRKIN, Ya.K.; MIRONOV, V.F.

Dipole moments of some germanium organic compounds. Izv.AN
SSSR Otd.khim.nauk no.5:948-949 My '60.   (MIRA 13:6)

1. Institut tonkoy khimicheskoy tekhnologii imeni M.V.
Lomonosova.
        (Germanium organic compounds.—Dipole moments)

L 53712-65   EWT(m)/EPF(c)/EPR/EWP(j)/EWA(c)   Pc-4/Pr-4/Ps-4   RPL   WW/RM
ACCESSION NR: AP5017167   UR/0192/64/005/004/0639/0639

AUTHOR: Kartsev, G. N.; Syrkin, Ya. K.; Kravchenko, A. L.; Mironov, V. F.

TITLE: Dipole moments of trimethylhalogermane

SOURCE: Zhurnal strukturnoy khimii, v. 5, no. 4, 1964, 639

TOPIC TAGS: dipole moment, germanium compound, halogenated organic compound

Abstract: The dipole moments of four monosubstituted trimethylgermanes
$(CH_3)_3GeX$, where X = F, Cl, Br, and I, were measured at 25° in benzene by
the heterodyne method. The dipole moments found were 2.51, 2.76, 2.84,
and 2.81, respectively. The investigated compounds were compared with anal-
ogous compounds of carbon and silicon, indicating that the variation of the
dipole moment from fluoro-substituted to iodo-substituted compounds is of
the same character as for the carbon compounds, but differs from the change
in the moment in this series for silicon compounds. The ratio $u(R_3GeX)$:
$u(R_3CX)$ was an average of 1.30 for all the compounds; this was not observed
for the corresponding silicon compounds. The moment of the Ge-F bond is
estimated at 2.80 D, and that of the Ge-I bond at 3.10 D.
Orig. art. has 2 tables.

Card 1/2

L 53712-65

ACCESSION NR: AP5017167

ASSOCIATION: Moskovskiy institut tonkoy khimicheskoy tekhnologii im. M. V. Lomonosova (Moscow Institute of Fine Chemical Technology)

SUBMITTED: 17Apr64   ENCL: 00   SUB CODE: OC, EH

NO REF SOV: 000   OTHER: 002   JPRS

Card 2/2

KARTSEV, I.

Concern for students' health. Prof.-tekh. obr. 21 no.7:24 Jl '64.

(MIRA 17:11)

1. Institut gigiyeny detey i podrostkov AMN SSSR.

MODZOLEVSKIY, Igor' Vladimirovich, inzh.; BARSEGOV, A.A.; KARPOV, I.V.;
    KARTSEV, I.T.; KRYLOV, N.M.; NIKOLAYEV, I.V.; REVICH, V.I.;
    SHEVYAKOV, V.A.; SHOKHIN, O.A.; CHUSOV, A.I.; GUBAREVA, N.T.,
    red.; BOBROVA, Ye.N., tekhn.red.

[General course in railroad engineering] Obshchii kurs zheleznykh
dorog. Izd.3., perer. Pod obshchei red. I.V.Modzolevskogo.
Moskva, Vses.izdatel'sko-poligr.ob"edinenie M-va putei soobshcheniia,
1960. 290 p.   (MIRA 13:12)
            (Railroad engineering)

KARTSEV, I.T.

MODZOLEVSKIY, Igor' Vladimirovich; BARSEGOV, A.A.; KARPOV, I.V.; KARTSEV,
I.T.; KRYLOV, N.M.; NIKOLAYEV, I.V.; REVICH, V.I.; SHEVYAKOV, V.A.;
SHOKHIN, O.A.; CHUSOV, A.I.; GORODNICHEV, N.G., redaktor; CHERNYSHEV,
V.I., redaktor; KHITROV, P.A., tekhnicheskiy redaktor

[General course on railroads] Obshchii kurs zheleznykh dorog. Izd.
2-e, perer. Moskva, Gos. transportnoe zhel-dor. izd-vo, 1954. 316 p.
(MLRA 8:3)
(Railroads)

KARTSEV, L. V.

KARTSEV, L. V. --"Experimental Investigation of the Effect of Open Axial Gaps on the efficiency of a Turbine Stage of the Active Type." *(Dissertations for Degrees in Science and Engineering Defended at the USSR Higher Educational Institutions) Min of Higher Education USSR, Kiev Order of Lenin Polytechnic Inst., Kiev, 1955

So: Knizhnaya Letopis', No. 25, 18 Jun 55

* For Degree of Candidate in Technical Sciences

KARTSEV, L.V., kand.tekhn.nauk

Evaluation of energy losses in the turbine stage from the inleakage of the working medium. Izv.vys.ucheb.zav.; energ. 2 no.6:74-82 Je '59. (MIRA 13:2)

1. Bryanskiy institut transportnogo mashinostroyeniya. Pred-stavlena kafedroy turbostroyeniya.
                    (Turbines)

KARTSEV, L.V., kand.tekhn.nauk

Analysis of the partial stage of a turbine with inleakage of the working substance. Izv.vys.ucheb.zav.; energ. 2 no.9: 69-73 S '59. (MIRA 13:2)

1. Bryanskiy institut transportnogo mashinostroyeniya. Predstavlena kafedroy turbostroyeniya.
(Steam turbines)

KIRILLOV, Ivan Ivanovich, prof.; YABLONIK, Rakhmiyel' Mordukhovich; KARTSEV,
Lev Vasil'yevich; GOGOLEV, Ivan Grigor'yevich; KUZ'MICHEV, Ryurik
Vladimirovich; KHUTSKIY, Gennadiy Ivanovich; D'YAKONOV, Rostislav
Ivanovich; PSHENICHNYY, Victor Dmitriyevich; TERESHKOV, Aleksandr
Aleksandrovich; SHUBENKO, L.A., retsenzent; GERASIMOVA, D.S., tekhn.
red.

[Aerodynamics of the blading of steam and gas turbines] Aerodina-
mika protochnoi chasti parovykh i gazovykh turbin. Pod red. I.I.
Kirillova. Moskva, Gos. nauchno-tekhn. izd-vo mashinostroit. lit-
ry, 1958. 246 p.
                                              (MIRA 11:10)

1. Bryanskiy institut transportnogo mashinostroyeniya (for Kirillov).
2. Chlen-korrespondent Akademii nauk USSR (for Shubenko).
               (Turbomachines--Aerodynamics)

8(6), 14(6)

AUTHOR:

TITLE:

PERIODICAL:

ABSTRACT:

Card 1/2

SOV/143-59-6-11/21

Kartsev, L.V., Candidate of Technical Sciences

The Estimation of the Energy Loss in a Turbine Stage from the Working Medium Induction

Izvestiya vysshikh uchebnykh zavedeniy - Energetika, 1959, Nr 6, pp 74-82 (USSR)

The energy losses from the induction of the working medium thru the open root gap in the space between the nozzles and the working blades reduces essentially the efficiency of a turbine stage. The efficiency reduction is caused by the energy dissipation losses, changes of the flow conditions at the blades and additional leaks thru open gaps because of an increased reactivity degree. Usually, when estimating the energy induction losses, only the dissipation losses are considered without giving consideration to the changes of the degree of reactivity. It may be proved that such a method of determining the losses produces considerable errors. The author estimates the increase of the degree of reactivity caused by induction, based

SOV/143-59-6-11/21

The Estimation of the Energy Loss in a Turbine Stage from the Working Medium Induction

on the necessity of passing thru the rotor channels an increasing amount of working medium. He then presents formulae for determining the losses with critical and subcritical outflows. The results of theoretical calculations show an adequate coincidence with experimental data of /Ref 1/. There are 2 diagrams, 3 graphs and 2 Soviet references.

ASSOCIATION: Bryanskiy institut transportnogo mashinostroyeniya (Bryansk Institute of Transportation Machine Building)

PRESENTED: Kafedra turbostroyeniya (Chair of Turbine Building)

SUBMITTED: January 20, 1959

Card 2/2

KARTSEV, L.V., kand. tekhn. nauk, dotsent; IL'YASHENKO, A.A., inzh.

Investigating the strength of detachable tapered couplings
of hydraulic transmissions. Vest. mashinostr. 44 no.9:18-
22 S '64.
(MIRA 17:11)

JUKNEVICIUS, J.; KARVELIS, Vyt.; KATINAS, J.; MEDONIS, Ar., red.

[Anyksciai and vicinity] Anyksciai ir ju apylinkes.
Vilnius, Valstybine politines ir mokslines lit-ros
leidykla, 1959. 25 p. [In Lithuanian]   (MIRA 18:1)

KARTSEV, M. A.   Engineer

"Arithmetical Unit of the M-2 Calculating Machine," lecture delivered at the Soviet Computer Congress, 12-17 March 1955, Moscow.

Translation of abstract - D 499674

PHASE I BOOK EXPLOITATION   474

Kartsev, M.A., Aleksandridi, T.M., Knyazev, V.D., Tanetov, G.I., Legezo, L.S., Lavrenyuk, Yu.A., Shchurov, A.I., Brusentsov, N.P., Kuznetzova, V.P.

Bystrodeystvuyushchaya vychislitel'naya mashina M-2 (High-speed Computer M-2) Moscow, Gostekhizdat, 1957. 228 p. 10,000 copies printed.

Ed. (title page): Bruk, Isaak Semenovich, Corresponding Member, USSR Academy of Sciences; Ed. (inside book): Bezborodov, Yu. M.; Tech. Ed.: Gavrilov, S.S.

PURPOSE: The book is written for engineers and students of vuzes, specializing in computer techniques, and for specialists interested in computer applications.

COVERAGE: The book describes the M-2, a small-dimensioned, universal, high-speed digital computer developed by the Laboratory of Control Machines and Systems of the Academy of Sciences, USSR. A detailed description is given of the basic computer units: the arithmetic

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High-speed Computer M-2   474

unit, internal memory devices, control devices and output devices.
This description is supplemented with an exposition of the guiding
principles of computer design, the binary system, coding and
programming, and the design of basic components of the system. This
makes the book accessible to readers who have no special training in
electronic computers. The basic characteristics of the computer are
as follows: the calculation system is binary; the code presentation
is with a floating and fixed binary point; the number of binary
digits is 34; the computation accuracy,with a floating binary point,
is about eight decimal bits, and with a fixed binary point, about
ten decimal bits (computations with doubled accuracy are also
possible); the range of numbers in operations with a floating binary-
point is from 2^{31} to 2^{-32}; the coding system is a three-address code;
operations performed are: addition, subtraction, multiplication,
division, congruence with modulus, algebraic congruence, logical
(signed) multiplication, sign inversion, transfer of numbers, and
auxiliary operations (30 in all); the average speed of operation is

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High-speed Computer M-2   474

2000 operations per second. Of the internal memory devices the basic
one is electrostatic, consisting of cathode-ray tubes of the 13L037
type, for 512 numbers; the access time is 25 μsec; the auxiliary
consists of a magnetic drum for 512 numbers; the speed of rotation is
2860 rpm. The external memory device consists of a magnetic tape
with a capacity of 50,000 numbers; its length is 600 m and speed
0.4 m/sec. The data is fed in on perforated paper tape at the rate
of about 30 numbers per sec. The decoding of data is in tabular
form, the printing speed is 24 numbers per min. The power supply is
from a 3-phase a-c metwprl 127/220-v, the power intake is 29 kw.
The area covered by the computer is 22 sq. m. The total number of
tubes is 1879, of which 1676 are used in the computer itself and 203
in the power supply. The types and numbers of tubes used in every
unit are given in Appendix 2. The personnel consists of two people
per shift. The cost of building the computer was about one million
rubles, and the cost of 24-hr operation is 16,000 to 18,000 rubles
per month. The various stages of development of the M-2 involved

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High-speed Computer M-2

the following engineers: M.A. Kartsev, V.V. Belinskiy and A.B. Zalkind, who developed the arithmetic unit; the electrostatic memory device was developed by T.M.Aleksandridi and Yu.A. Lavrenyuk; control devices by L.S. Legezo, V.D. Knyazev and G.I. Tanetov; magnetic memory devices by A.I. Shchurov and L.S. Legezo; input and output devices by A.B. Zalkind; the power supply system by V.V. Belynskiy, Y.A. Lavrenyuk and V.D. Knyazev; the control panel by V.V. Belynskiy and A.I. Shchurov. The design work was supervised by M.A. Kartsev. The following laboratory constructors, technicians, mechanics and assemblymen also worked on the project; I.Z. Gel'fgat, A.D. Grechushkin, N.A. Nemtsev, F.F. Rzheutskiy, I.K. Shvil'pe, D.U. Yermochenkov, L.I. Fedorov, and G.I. Korostylev. The following persons collaborated in the writing of the book: M.A. Kartsev (Chapters I to VI and XI), I.M. Aleksandridi (Chapter VII), V.D. Knyazev (Chapters II, III, VII and IX), V.P. Kuznetsova (Chapter XII), Yu. A. Lavrenyuk (Chapters V and VII), G.I. Tanetov (Chapters VI, IX and XIII), A.I. Shchurov (Chapter VIII), N.P. Brusentsov (Chapters VIII, IX, XIV) and L.S. Legezo (Chapter X).

Card 4/13

Kartsev, M A

SUBJECT: USSR/New Electron Computers Developed at Lower Cost

AUTHOR: Kartsev, M.A. and Matyukhin, N.Ya., Engineers   25-4-17/34

TITLE: Computers (Vychislitel'nyye Mashiny)

PERIODICAL: Nauka i Zhizn' - April 1957, # 4, pp 44-45 (USSR)

ABSTRACT: In this article two newly developed types of electronic computers are described. M-2 performs about 2,000 arithmetical operations per second, but is much cheaper and simpler to operate than the "Strela", an earlier constructed computer of equal efficiency. In the M-2 for the first time semiconductors and cathode ray tubes, which are cheap and easily obtainable were used.

Another computer, the M-3, is much smaller, requiring only 3 sq m of space. It has only 780 tubes, 3,000 semiconductor appliances and needs no long adjustment. It can perform thirty operations per second, but can easily be extended by additional cabinets, which are able to multiply its efficiency.

The article contains two illustrations of the M-2 and M-3 computers respectively.

Card 1/2

TITLE: Computers (Vychielitel'nyye Mashiny)   25-4-17/34

ASSOCIATION: Laboratoria upravlyayushchikh mashin i sistem an SSSR
             (Laboratory for Control Machines and Systems of the Academy
             of Sciences of the USSR)

PRESENTED BY:

SUBMITTED:

AVAILABLE: At the Library of Congress.

Card 2/2

28(2)   PHASE I BOOK EXPLOITATION   SOV/1453

Kartsev, Mikhail Aleksandrovich

Arifmeticheskiye ustroystva elektronnykh tsifrovykh mashin (Arithmetic Units of
    Electronic Digital Computers) Moscow, Fizmatgiz, 1958. 158 p. (Series:
    Biblioteka prikladnogo analiza i vychislitel'noy matematiki) 10,000 copies
    printed.

Sponsoring Agency: Moscow. Universitet. Kafedra vychislitel'noy matematiki

Chief Ed. of Series: Sobolev, S.L., Academician; Ed.: Bezborodov, Yu.M.;
    Tech. Ed.: Yermakova, Ye.A.

PURPOSE: The book is intended for scientists and engineers designing electronic
    computers and for graduate students of vuzes.

COVERAGE: The book discusses general problems of designing arithmetic units:
    selecting the system of number coding, developing binary adders, selecting methods
    of performing multiplication and division with a binary number base, and developing
    logical systems of arithmetic units. The book also presents a description of
    existing constructions, methods of their comparative evaluation and some new
    solutions. Material for the book is based largely on work done at the Labora-
    toriya upravlyayushchikh mashin i sistem AN SSSR (Laboratory of Control

Card 1/4

Arithmetic Units of Electronic Digital Computers   SOV/1453

Machines and Systems, AS USSR), and represents a part of a broad study in the
field of computer technique. This study was made under the supervision of
I.S. Bruk, Corresponding Member, AS USSR. The author thanks N.Ya. Matyukhin,
V.V. Belynskiy, Doctor of Physical and Mathematical Sciences A.L. Brudno,
Corresponding Member, AS USSR, L.A. Lyusternik, and participants in the
seminar given by the Chair of Computer Mathematics at Moscow State University,
all of whom read the book in manuscript form and introduced several valuable
suggestions. There are 29 references, of which 13 are Soviet (including 1
translation), and 16 English.

TABLE OF CONTENTS:

Card 2/4

KARTSEV, M.A., Cand Tech Sci -- (diss) "Bases of ~~construction~~ design

of arithmetic devices and the engineering solution of

the arithmetic ~~knot~~ of ~~a calculating~~ assembly the M-2 ~~~~ machine." Mos, 1958,

16 pp (Min of Higher Education USSR. Mos Order of Lenin

Power Engineering Inst)   100 copies (KL, 23-58, 106)

$K A R l s e v, M . A .$
$P . r$

PHASE I   BOOK EXPLOITATION   SOV/3671

Akademiya nauk SSSR.   Institut elektronnykh upravlyayushchikh mashin

Tsifrovaya tekhnika i vychislitel'nyye ustroystva;   [Sbornik]
   (Digital Technique and Computing Devices; Collection of Articles)
   Moscow, Izd-vo AN SSSR, 1959. 184 p. Errata slip inserted.
   4,000 copies printed.

Ed.: N.S. Bruk, Corresponding Member, USSR Academy of Sciences;
   Ed. of Publishing House: G.Yu. Shteynbok; Tech. Ed.: V.V.
   Volkhova.

PURPOSE: This collection of articles is intended for persons
   specializing in computer technique.

COVERAGE: Most of the work in this first issue of the Collection
   of Articles of the Institute of Electronic Control Machines of
   the Academy of Sciences, USSR, was carried out during 1958-1959,
   and was dedicated to digital technique. The Institute conduc-
   ted studies aimed at creating a high-speed memory device of large
   capacity. One of the results of this work was improvement of the

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Digital Technique (Cont.)   SOV/3671

M-2 computer by replacing its static storage device with ferrite
memory cores. Other articles concern the use of transistors in
digital computers, stability of analog computers equipped with
d-c operational amplifiers, and the use of the M-2 computer
in solving various problems. Future issues of this collection
of articles will present the results of work in digital tech-
nique in mathematical investigations, and in control machines and
systems of control which operate on the principle of digital
technique. Some personalities are mentioned in the articles.
References accompany some of the articles.

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    The authors present a general description of the ferrite core
memory device. It has a 4096 word capacity, each word consisting
of 36 binary bits, two of which are reserve. The access time is

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about 30 microsec;   part of this cycle overlaps other computer
operations. This memory unit is equipped with 526 electron tubes
and 103 additional tubes are used in the power supply. These
specifications constitute a great improvement over the previous
memory device, in which the operational electrostatic storage and
the reserve magnetic drum storage had a capacity of 512 binary,
34-bit words each, and in which access time was from 37.5 to 50 or
more microsec. It was equipped with 644 electron tubes and
150 additional tubes were used in the power supply. The new
ferrite core memory device was developed, executed, and adjusted
at the Institute under the general direction of I.S. Bruk,
Corresponding Member of the Academy of Sciences, USSR. Prelimi-
nary studies were made in 1955-1956 under the direction of
O.V. Rosnitskiy. The essential part of the work was done under
the supervision of M.A. Kartsev by engineers T.M. Aleksandridi,
V.B. Borok, Yu.N. Glukhov, V.I. Zolotarevskiy, L.V. Ivanov,
V.P. Konstantinov, Ye.N. Filinov, and R.P. Shidlovskiy; and
technicians I.I. Gallyamova, N.S. Zhdanov, V.M. Minayev, M.Ya.
Natanzon, Z.N. Sidyakova and V.S. Sokolov. The construction
group was under the supervision of A.N. Patrikeyev, and the

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    assembly shop was under the supervision of A.D. Grechushkin and
    the mechanical shop of the Institute.

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    The following checking operations, which are considered indis-
    pensable, were carried out during production of the ferrite
    core memory device: selection of the cores according to es-
    tablished requirements; testing the finished matrix frames;
    and checking the whole memory device. There is very little
    reference literature concerning the methods and equipment for
    carrying out such work, and the article was written from material
    acquired in developing such checking arrangements. This work
    was done at the Institute, and the following persons, in addition
    to the authors of this article, participated in it: V.P. Kon-
    stantinov, M.Ya. Natanzon and V.S. Sokolov. There are two
    references, both Soviet.

Chernov, A.N. Utilization of a Dynamic Trigger Equipped With a
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press these quantities by means of discrete electrical states.
He presents, in table form, conversion methods or converter
types together with the characteristics of each method or type.
There are 8 references: 3 Soviet (one of which is a translation)
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obtained from it in the period 1953-1958.

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parallel printing device developed at the Laboratory in 1956-1957.
The printing rate is 300 lines per sec.

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With One Transistor
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at the Laboratory. They compare it with a similar one-transistor

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M.A. KARTSEV

16(1),16(2)
AUTHORS: Lozciov,K.S., and Makove,N.S.   SOV/42-14-1-27/27

TITLE: New Publications on Applied Analysis and Numerical Mathematics
           (Novye izdaniya po prikladnomu analizu i vychislitel'noy
           matematike)

PERIODICAL: Uspekhi matematicheskikh nauk,1959,Vol 14,Nr 1,pp 261-265(USSR)

ABSTRACT: It is stated that in the USSR there exists no periodical on
           numerical mathematics and similar domains. The papers of these
           domains chiefly appear in the series "Publications on Applied Analysis
           and Numerical Mathematics" (SPAVM) and in single collected
           volumes. The series SPAVM began in 1955 and until now it
           contained the following monographies: 1. G.S.Salekhov "Calculation
           of Series"; 2. A.N.Khovanskiy "Application of Continued Fractions
           in the Approximate Analysis"; 3. V.S.Ryaben'kiy, A.F.Filippov
           "Stability of Difference Equations"; 4. G.N.Lozanskiy "Mono-
           grams"; 5. S.M.Nikolskiy "Quadrature Formulae"; 6. N.A.Kartsev
           "Arithmetic Devices of Electronic Digit Apparatus";
           Koshlyy, G.S.Rozlyakov, K.F.Trifonov, N.N.Sharm-Bura "Systems
           of Standard Subprograms".
           There appeared the following collected volumes: "Numerical
           Mathematics and Computing Technics" (NMTT) since 1953, "Numerical
           Mathematics" (NM) since 1957, and "Computing Technics" (VT) since
           1956. Until now two volumes of NMTT appeared with contributions
           of V.A.Ditkin, L.A.Lyusternik, A.I.Ivanova, A.A.Abramov, N.B.
           ...

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KARTSEV, Mikhail Aleksandrovich

Arithmetic units for electronic digital computers. Wright-
Patterson Air Force Base, 1960.
152 p. (MCL-285/V)
Translated from the original Russian: Arifmeticheskiye
ustroystva elektronnykh tsifrovykh mashin, Moscow, 1958.

Kartsev, M. A.

PHASE I BOOK EXPLOITATION   SOV/4279

Problemy kibernetiki, vyp. v (Problems of Cybernetics, no. 4) Moscow,
Fizmatgiz, 1960. 257 p. 10,000 copies printed.

Compiler: O.V. Vasilovskaya, I.L. Gavrilova, Ye.I. Starobogatov,
V.I. Shestakov, and S.V. Yablonskiy; Ed.: O.V. Vasilovskaya, Ye.I. Starobogatov,
and B.I. Pinkov; Tech. Ed.: S.F. Akhlamov; Chief Ed.: A.A. Lyapunov.

PURPOSE: This book is intended for mathematicians and scientists interested in the
problems of cybernetics and system control.

COVERAGE: The book is a collection of articles on cybernetics, the theory of control
systems, information theory, programming, computers, control processes in living
organisms, and mathematical linguistics. The author thanks the following persons
for their assistance: F. Ya. Veselnovskiy, A.P. Yershov, V.M. Zolotarev, V.I.
Krochkov, V.I. Levenshteyn, O.B. Lupanov, B.A. Sevastyanov, and M.L. Tsetlin.
References accompany several of the articles.

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C111/C222

AUTHOR: Kartsev, M.A.

TITLE: Logical methods for the acceleration of the multiplication
in digital computers

PERIODICAL: Referativnyy zhurnal. Matematika, no. 7, 1961, 51,
abstract 7 V 329. ("Probl. kibernetiki" vyp 4. M., Fizmatgiz,
1960, 111-120)

TEXT: The author considers the influence of the choice of the base of the
positional arithmetic system to the effectivity of the application of
logical methods for the acceleration of the multiplication. The author
considers logical methods which reach an acceleration of the multi-
plication only by a more complicated control scheme without an en-
largement of the quantity of devices in the basic scheme of the arithmetic
unit. The author determines the mathematical expectation of the number of
tacts of addition and subtraction being necessary for the performance
of the multiplication as well as the mean number of tacts of addition-
subtraction per one digit of the multiplier. Several bases of the

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